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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/789,458	02/27/2004	Makoto Ohhira	15115/107001	5178

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Jonathan P. Osha
OSHA & MAY L.L.P.
1221 McKinney Street, Suite 2800
Houston, TX 77010

EXAMINER

VU, PHU

ART UNIT	PAPER NUMBER
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2871

DATE MAILED: 01/13/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/789,458

Applicant(s)

OHHIRA ET AL.

Examiner

Phu Vu

Art Unit

2871

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Applicant's arguments with respect to claims 1-11 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1 –4 and 6-11 are rejected under 35 U.S.C. 102(b) as anticipated by Funamoto 20020159009.

Regarding claim 1, Funamoto teaches a reflector comprising: a predetermined plane (fig. 2) and plural unit reflecting portions (17) disposed in parallel to said predetermined plane wherein at least one of the said plurality of unit reflecting portions has a reflection face for reflecting incident light in a different direction from that of regular reflection light of said predetermined plane, wherein the plurality of unit reflecting portions are irregularly configured under a condition such that a distance between a first tangential plane tangent to a first reflection face arranged in a first unit reflecting portion at a reference point arranged on said first reflection face, and a second tangential plane and tangent second reflection face arranged in a second unit reflecting portion adjacent to said first unit reflecting portions is half or more of a

coherent length of the incident light. The limitation of the distance between the a first tangential plane to a second tangential plane being half or more a coherent length of light is met because the claim fails to denote any specific reference points therefore the placement of these reference points can be placed to meet the limitations of the claim as the claim. Furthermore there is no language in the claim that specifies exactly what a coherent length of light is. This limitation appears to depend on the wavelength of the incident light but the claim does not specify any intended wavelength. It is also uncertain whether this limitation whether this includes light beyond the visible spectrum as well therefore a "coherent length" of light does not appear to limit the claim to any specific wavelength.

Regarding claim 2, Funamoto teaches a reflector comprising: a predetermined plane (fig. 2) and plural unit reflecting portions (17) disposed in parallel to said predetermined plane wherein at least one of the said plurality of unit reflecting portions has a reflection face for reflecting incident light in a different direction from that of regular reflection light of said predetermined plane, "wherein the plurality of unit reflecting portions are irregularly configured (see fig. 2) under a condition such that an average of a distance between a first tangential plane tangent to a first reflection face arranged in a first unit reflecting portion at a reference point on said first reflection face, and a second tangential plane and tangent to a second reflection face arranged in a second unit reflecting portion adjacent to said first unit reflecting portions is half or more of a coherent length of the incident light." The limitation of the average distance between the a first tangential plane to a second tangential plane being half or more a

coherent length of light is met because the claim fails to denote any specific reference points therefore the placement of these reference points can be placed to meet the limitations of the claim as the claim. Furthermore there is no language in the claim that specifies exactly what a coherent length of light is. This limitation appears to depend on the wavelength of the incident light but the claim does not specify any intended wavelength. It is also uncertain whether this limitation whether this includes light beyond the visible spectrum as well therefore a "coherent length" of light does not appear to limit the claim to any specific wavelength.

Regarding claim 3, Funamoto a teaches reflector comprising a predetermined plane and plurality of unit reflecting portions disposed in parallel to said predetermined plane wherein at least one said plurality of unit reflecting portions has a reflection face configured to reflect incident light in a different direction from regular reflection light of said predetermined plane wherein the plurality of unit reflection portions are irregularly configured under a condition that, when a frequency distribution is calculated by setting to a variable a distance between a first tangential plane tangent to a first reflection face arranged in a first unit reflecting portion at a reference point on said first reflection face and a second tangential plane in parallel with first tangential plane and tangent to a second reflection face arranged in a second unit reflecting portion adjacent to said first unit reflection portion the distance corresponding to the maximum frequency is half or more of a coherent length of light. The limitation of the distance/ frequency relationship between the a first tangential plane to a second tangential plane being half or more a coherent length of light is met because the claim fails to denote any specific reference

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points therefore the placement of these reference points can be placed to meet the limitations of the claim as the claim. Furthermore there is no language in the claim that specifies exactly what a coherent length of light is. This limitation appears to depend on the wavelength of the incident light but the claim does not specify any intended wavelength. It is also uncertain whether this limitation whether this includes light beyond the visible spectrum as well therefore a "coherent length" of light does not appear to limit the claim to any specific wavelength.

Regarding claim 4, the reference teaches reflector according to claim 3, wherein the distance between said first tangential plane and said second tangential plane is set to 80 micrometers or less. As previously stated since the placement of the points is arbitrary points where the tangent is closest to vertical will have a distance between tangential planes to be maximal in this case will be ~1mm max (as the substrate has a length of 40 mm (see [0061]) however, points where the tangential is horizontal will be significantly less. Applicant states that the respective points are arbitrary therefore, this limitation will be met for the set of points where the tangential is close to horizontal therefore these this condition must be met at this point.

Regarding claim 6, the reference teaches the reflector according to claim 5, wherein said plural unit reflecting portions are arranged such that directions for maximizing the intensity of the reflection light reflected by said reflection face cross each other in a predetermined position. Since applicant does not specify the predetermined position the crossing position of the reference is considered the predetermined position and this limitation is met or any specific structure that this

limitation implies this limitation is met as the applicant does not supply any structure associated the reflector of claim 3 is considered to meet this limitation as applicant does not indicate any structural difference between the two.

Regarding claim 7, The reflector according to claim 6, wherein said plural unit reflecting portions are arranged such that diffusion reflection lights reflected by said reflection face cross each other in a predetermined area. Since applicant does not specify the predetermined area the area in the reference is considered where diffusion reflection lights cross of the reference and applicant does not provide any structural difference between this structure and the structure according to claim 3 that the reference meets this limitation as well.

Regarding claim 8, the reflector according to claim 3, wherein said reflector has a curved shape, and said reference point is determined as one of a point at which a point orthogonally projected onto said predetermined plane is conformed to the center point of gravity of a projection figure caused when said unit reflecting portion is orthogonally projected onto said predetermined plane, a point at which a normal line vector calculated at one point on said reflection face is similarly conformed to an average vector of the normal line vector calculated at each point, and a point for maximizing the distance from a line segment connecting minimum and maximum points in the distance with respect to said predetermined plane on said reflection face to said reflection face. The reference point can be considered a point at which a point orthogonally projected onto said predetermined plane is conformed to the center point of gravity of a projection figure caused when said unit reflecting portion is orthogonally

projected onto said predetermined plane. Furthermore denoting a reference point does not appear to further limit the structure of the device.

Regarding claim 9, the reference teaches a display device having a reflection member and performing display by reflecting light incident from the exterior on the reflection member, wherein this reflection member is constructed by the reflector (see figure 13).

Regarding claim 10, the reference teaches an electronic apparatus characterized in that the display device according to claim 9 is used as a display (see fig. 14)

Regarding claim 11, the reference teaches a light reflecting method for reflecting incident light in a direction different from the direction of regular reflection of a predetermined plane by using a reflector having a plurality of unit reflecting portions (see figure 2) irregularly configured and disposed in parallel to said predetermined plane. The limitations of "wherein an optical path length difference for maximizing frequency is set to a coherent length or more of said incident light when a frequency distribution having the optical path length difference of incident reflection light reflected on a pair of arbitrary adjacent unit reflecting portions as a variable is calculated" are met as the claim provides no specific limitations as to what steps must be performed to accomplish this.

Claim Rejections - 35 USC § 103

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Funamoto 20020159009.

Regarding claim 5, the reference teaches all the limitations of claim 5 except wherein said reflection face has a curved shape, and the average value of an angle formed by said predetermined plane and a plane perpendicular to an average vector of a normal line vector calculated at each point on said curved face ranges from 5 degrees or more to 15 degrees or less. The reference shows these angles to encompass a range that appears to be overlap the claimed range. The reference does not specify any specific angles however the references angles which correspond to alpha in the applicants specification being 5-15 degrees as in fig. 2 appear to include angles above and below the claimed range in addition to the claimed range and narrowing it can provide a narrow range reflection. Thus it would be obvious to one of ordinary skill in the art to apply a range of 5 degrees or more to 15 degrees or less limit reflection angles of the display. Moreover, The MPEP section 2144.05 [R-1] states In the case where the claimed ranges "overlap or lie inside ranges disclosed by the prior art" a prima facie case of obviousness exists. In re Wertheim, 541 F.2d 257, 191 USPQ 90 (CCPA 1976).

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US Publication No. 2002/0149723.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Phu Vu whose telephone number is (571)-272-1562. The examiner can normally be reached on 8AM-5PM M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Kim can be reached on (571)-272-2293. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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Examiner
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ANDREW SCHECHTER
PRIMARY EXAMINER